

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

1-93. (Canceled)

94. (Currently amended) A gas burner including:

a distributor means having at least three distribution chambers to distribute an air gas mixture around said distributor,

each distribution chamber having ~~at least~~ three distribution channels having a substantially "T" configuration;

each distribution channel including a plurality of flame ports through which said gas mixture can pass and be ignited;

at least one injector associated with each of said distribution chambers to deliver gas to the distribution channels;

each of the injectors being positioned to inject gas into its associated distribution chamber via an associated venturi system including an upwardly directed passage and a transition port and wherein the distribution channels enable gas flow in at least three directions away from said transition port and towards associated flame ports,

wherein the burner has an internal aperture,

at least some of the flame ports being oriented towards the internal aperture,

each distribution chamber including at least one transversely projecting distribution channel which projects into the aperture,

the transversely projecting channel including flame ports adapted to direct combustion gasses into the aperture.

95. (Previously presented) A burner as claimed in claim 94, wherein two of the distribution channels of each distribution chamber extend circumferentially.

96. (Previously presented) A burner as claimed in claim 94, wherein each venturi system includes an upright inward tapering section in fluid communication with a transverse expanding section via the transition port, the transverse expanding section being within the corresponding distribution chamber.

97. (Previously presented) A gas burner as claimed in claim 94, wherein each distribution chamber includes a transversely extending distribution channel.

98. (Previously presented) A burner as claimed in claim 94, wherein said distributor means has a generally cylindrical outer surface.

99. (Previously presented) A burner as claimed in claim 94, wherein each distribution chamber has an inwardly extending distribution channel, the inwardly extending distribution channels including associated flame ports and being circumferentially equi-spaced.

100. (Previously presented) A burner as claimed in claim 94 wherein each distribution chamber includes at least one outwardly extending arm.

101. (Previously presented) A burner as claimed in claim 94, wherein the aperture has a clover leaf configuration.

102. (Previously presented) A burner as claimed in claim 94 wherein said distributor means is segmented, whereby each segment has its own distribution chamber and injector.

103. (Previously presented) A burner as claimed in claim 102 wherein said distributor means is segmented by means of segment walls between respective segments.

104. (Previously presented) A burner as claimed in claim 102 wherein said distributor means is segmented by means of gas flow from said injectors.

105. (Previously presented) A burner as claimed in claim 102 wherein said segments form one of the following: a cross shape with an arcuate or circumferential cross bar; a T shape with a convex arcuate or circumferential cross bar; a T shape with a concave arcuate or circumferential cross bar.

106. (Previously presented) A burner as claimed in claim 94 wherein the air gas distribution channels of each distribution chamber form a T shape with an arcuate or circumferential cross bar.

107. (Previously presented) A burner as claimed in claim 102, wherein each segment includes four air gas distribution channels which form a cross shape with an arcuate or circumferential cross bar.

108. (Previously presented) A burner as claimed in claim 94, wherein said burner includes a cap which is positioned on top of said distributor means.

109. (Previously presented) A burner as claimed in claim 108, wherein each distribution chamber includes a venturi extension formed at least partially in the cap.

110. (Previously presented) A burner as claimed in claim 94, wherein said flame ports are formed in one or more walls of said distributor means.

111. (Previously presented) A burner as claimed in claim 108, wherein said flame ports are formed in the cap.

112. (Previously presented) A burner as claimed in claim 111, wherein each distribution channel has one or more occluding structures associated therewith for directing and or baffling said air gas mixture in its flow from said transition port to said flame ports.

113. (Previously presented) A burner as claimed in claim 112, wherein said occluding structures comprise a wall or ridge like formation extending away from the transition port.

114. (Previously presented) A burner as claimed in claim 94, wherein said distributor means has at least one air entry port per injector.

115. (Previously presented) A burner as claimed in claim 114, wherein each air entry port is formed in a side wall of said distributor means.

116. (Previously presented) A burner as claimed in claim 115, wherein said air entry ports have a larger cross sectional area at intermediate regions by comparison to side regions of said air entry ports.

117. (Previously presented) A burner as claimed in claim 115, wherein each air entry port is positioned in the wall of said distributor means so as to be located proximate said injector.

118. (Previously presented) A burner as claimed in claim 117, wherein each said injector is shielded by a portion of a wall of said distributor means to prevent air passing in through said air entry port from disturbing the operation of said injector.

119. (Previously presented) A burner as claimed in claim 115, wherein the distributor includes at least three inwardly extending arms, and wherein said air entry ports are located between respective arms of said distributor means, and wherein respective injectors are located so that they are aligned with the direction of said arm.

120. (Previously presented) A burner as claimed in claim 94, wherein the distributor includes at least three inwardly extending arms, and wherein said burner includes a trivet which is aligned with said arms, so as to overlie said arms.

121. (Previously presented) A burner as claimed in claim 94, wherein the distributor includes at least three inwardly extending arms, and wherein said arms have a flame port arrangement whereby the axis of said flame ports on a respective arm is generally at an acute angle to the direction of a respective arm.

122. (Previously presented) A burner as claimed in claim 94, wherein the distributor includes at least three inwardly extending arms, and wherein said arms extend away from said distributor means for at least a part of the length of the arm at an angle of inclination or declination away from an imaginary horizontal plane.

123. (Previously presented) A burner as claimed in claim 94, wherein said distributor means is mounted on a manifold including a gas inlet which communicates with a cavity in said manifold, each of said injectors being in fluid communication with the cavity to receive gas supply from the cavity.

124. (Previously presented) A burner as claimed in claim 123 wherein a wall of said cavity is shaped such that the height of said cavity at the outer periphery is of a height greater than at the centre of said cavity.

125. (Previously presented) A burner as claimed in claim 123, wherein said manifold cavity has its top surface concave in shape.

126. (Previously presented) A burner as claimed claim 94, wherein said distributor means has an internal aperture such that the distributor means has an internal and an external perimeter, with inwardly directed ports in said internal perimeter and outwardly directed ports in its external perimeter.

127. (Previously presented) A burner as claimed in claim 109, wherein each venturi extension is oriented so as to be generally horizontal.

128. (Previously presented) A gas burner as claimed in claim 94, comprising one distributor means having at least three discrete distribution chambers therein, each chamber having communication with flame ports and including a venturi system to supply an air gas mixture thereto; said burner having a single manifold to conduct gas to respective injectors for each venturi system from a single gas supply connection to said manifold, each of said chambers

having a transversely extending channel, which projects into an inner aperture of said burner, whereby between the ends of respective inwardly extending channels there is provided an unobstructed space.

129. (Previously presented) A gas burner as claimed in claim 128, wherein each transversely extending channel includes at least two sides which are generally parallel.

130. (Previously presented) A gas burner as claimed in claim 128, wherein each chamber also includes two oppositely extending circumferential or arcuate channels.

131. (Previously presented) A gas burner as claimed in claim 128, wherein said chamber also includes an outwardly projecting channel.

132. (Previously presented) A gas burner as claimed in claim 131, wherein said burner includes a cap.

133. (Previously presented) A gas burner as claimed in claim 132, wherein the distributor means or said cap includes a multiplicity of said flame ports.

134. (Previously presented) A gas burner as claimed in claim 133, wherein said flame ports are formed by a combination of formations located on said distributor means and said cap.

135. (Previously presented) A gas burner as claimed in claim 128, wherein each distribution chamber includes at least three venturi extensions which each define two peripheral channels and a transverse channel to deliver air gas mixture to flame ports.

136. (Previously presented) A gas burner as claimed in claim 132, wherein said cap includes at least three venturi extensions which extends into said chamber to define a radial channel and two peripheral channels to deliver air gas mixture to flame ports.

137. (Previously presented) A gas burner as claimed in claim 128, wherein each said venturi system includes a vertical passage which opens into at least one generally horizontal venturi extension which extends away from said vertical passage in the direction of each distribution channel of said chamber.

138. (Previously presented) A gas burner as claimed in claim 132, wherein each generally horizontal venturi extension is formed in said distributor means and/or in an underside of the cap.

139. (Previously presented) A burner as claimed in claims 128, wherein said distributor means is an assembly of separate or discrete segments which are assembled or otherwise joined together.

140. (Previously presented) A burner as claimed in claim 139, wherein said separate or discrete segments include interlocking formations thereon so that adjacent burner segments can be assembled together.

141. (Previously presented) A burner as claimed in claim 139, wherein said separate or discrete segments are held together as an assembly by means of a interaction with a burner cap.

142. (Previously presented) A burner as claimed in claim 139, wherein a circumferential fixing means assists in holding or holds said separate or discrete segments together as an assembly to form a distributor.

143-157 (Cancelled)

158. (Previously presented) A gas burner including a distributor means having at least three chambers to distribute an air gas mixture around said distributor means, said burner including a plurality of flame ports through which said gas mixture can pass and be ignited; at least one injector associated with each chamber, each injector being positioned to inject gas into its associated chamber via a respective vertically directed converging passage terminating with an transition port which has communication with said chamber, a venturi being formed in part by said converging passage and said transition port with a final part of said venturi being formed by at least one venturi extension which acts upon a generally horizontal flow of said air gas mixture flowing from said transition port, said transition port having at or near its rim two or more occluding structures associated therewith for directing and or baffling said air gas mixture in its flow from said transition port to said flame ports.

159. (Previously presented) A burner as claimed in claim 158, wherein said occluding structures comprise a wall or ridge like formation extending away from said protrusion and or said protrusion extensions.

160. (Previously presented) A burner as claimed in claim 158, wherein said occluding structures have a castellated appearance.

161. (Previously presented) A burner as claimed in claim 158, wherein said occluding structures are formed on said distributor means or in a cap associated with said distributor means or by a combination of both.

Appl. No. 10/597,348
Amdt. dated April 20, 2010
Reply to Office Action of January 20, 2010

162. (Previously presented) A burner as claimed in claim 158, wherein said flame ports are formed on said distributor means or in a cap associated with said distributor means or by a combination of both.

163. (Previously presented) A burner as claimed in claim 158, wherein extending away from said transition port there are at least two venturi extensions.

164. (Previously presented) A burner as claimed in claim 158 wherein said occlusion structures are located near to the edges of said venturi extensions.